

Appl. No. 09/681,571

Amdt. Dated 3 January 2005

Reply to Office action of 4 October 2004

### **REMARKS/ARGUMENTS**

The Office Action of 4 October 2004 has been carefully considered. Applicant notes that the Examiner provided some "Claim Interpretations," a rejection of claims 1-17 under 35 USC 112, first paragraph, on enablement, a rejection of claims 1-17 under 35 USC 112, first paragraph on written description, and a rejection of claims 1-17 under 35 USC 102(b) on Ito et al., "Dynamic Characteristics and Design Technology of Turbine Generator Stator Frame," IEEE Transactions on Energy Conversion, June 1988, Vol. 3, Issue 2, PP. 420-426 (hereinafter "Ito").

The title, and claims 1-11 and 13-17 were amended. Claims 1-17 remain in the application.

#### **Claim Interpretations**

Applicant does not fully understand the reason that this Office Action includes a definition section and, in particular, is traversing two of the definitions.

Applicant respectfully traverses the Office Action statement on page 2, section 2.b. and submits that a keybar is not synonymous with a "key" definition 2 of the IEEE dictionary (bar that by being recessed partly in each of two adjacent members serves to transmit a force from one to the other). As stated in Applicant's Specification paragraph 2, keybars are attached to a stator by two flanges for meeting mechanical requirements of the stator. Although there is a "dovetail" or "key" type section of a keybar (as can be seen in FIG. 2), this is not synonymous with a standard key of the type referenced in the IEEE dictionary where two angled elements are inserted into opposing ends of an opening to support key type coupling.

Applicant respectfully traverses the Office Action statement on page 3, section 3 and submits that it is incorrect to state that "the keybars are the bars that create the stator casing." Applicant did not specifically reference a "casing" in the specification or claims but does mention that the keybars coupled the stator laminations to a stator frame 40. As is known to those of ordinary skill in the art, this is often accomplished via section plates (large washers), for example, which are welded over the keybars and cylinder, spaced out along the cylinder, and coupled to an outer casing. One textbook with a corresponding photo (with numbers inserted in pencil) of keybar (1), section plate (2), and casing (3) is Leander W. Matsch, Late, and J. Derald Morgan, *Electromagnetic and Electromechanical Machines*, 3<sup>rd</sup> Edition, Harper & Row, page 159 (1988).

#### **35 USC 112, first paragraph**

Applicant respectfully traverses the rejection of claims 1-17 under 35 USC 112, first paragraph. The Office Action references enablement on page 4 and written description on page 5.

Although Applicant traverses the rejections, to expedite prosecution and further clarify what is being claimed, Applicant has removed "electromagnetic effects" and specified more particularly that what is being determined is keybar voltage or keybar current and that what is being minimized is keybar voltage. Support for these amendments can be found in paragraphs 12-14 of the Specification, for example.

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With respect to enablement, Applicant respectfully traverses the page 4, section 5, last half of page statement that "advanced analytical methods" and "time stepping finite elements with rotation" mean that one of ordinary skill on the art would require too much experimentation. Applicant respectfully submits that commercially available products are available and were available at the time of filing. Three commercial vendor packages include, for example, Maxwell<sup>TM</sup> simulation software available from Ansoft Corp. (<http://www.ansoft.com>), Flux3D simulation software available from Magsoft ([http://www.flux3d.com/flux3d\\_index.html](http://www.flux3d.com/flux3d_index.html)), and MagNet simulation software available from Infolytica Corp. (<http://www.infolytica.com/en/products/magnet/>). Additionally, Applicant further indicated in paragraph 13 that determination can be made by physical testing itself. This would not even require such software or "undue experimentation."

With respect to written description, Applicant has clarified the fact that what is being measured is voltage or current and what is being minimized is voltage. Further, as can be seen from the statements above, paragraph 13 mentions both physical testing and software. Such software is and was available. Applicant was not trying to claim a specific type and was merely indicated that physical testing or simulation were paths toward selecting the design with minimal keybar voltage.

Therefore, Applicant respectfully submits that claims 1-17, particularly as amended, are in full compliance with the requirements of 35 USC 112, first paragraph. Withdrawal of the rejection of claims 1-17 under 35 USC 112, first paragraph, is respectfully requested.

#### 35 USC 102(b)

Applicant respectfully traverses the rejection of claims 1-17 under 35 USC 102(b) over Ito. Ito appears to be a description of a mechanical technique directed to moving a resonant frequency  $f_e$  to  $2f_e$  (Ito FIG. 1) for the purpose of reducing stator frame size (abstract).

With respect to each of the independent claims 1, 5, 7, 9-11, and 13-17, Applicant can find no reference in Ito to determining any keybar voltage effects, keybar current effects, or any type of electromagnetic effect. Pages 422 and 423 (cited by the Office Action on page 7) merely talk about natural frequencies and vibrations. These are mechanical effects.

Accordingly, Applicant respectfully submits that claim 1, claims 2-4 which depend therefrom, claim 5, claim 6 which depends therefrom, claim 7, claim 8 which depends therefrom, claims 9-11, claim 12 which depends from claim 11, and claims 13-17 define allowable subject matter over the applied art. Withdrawal of the rejections is respectfully requested, and allowance of claims 1-17 is respectfully solicited.

#### Request for a telephone call between Examiner and Inventor

The inventor, Manoj Shah, has over twenty one years of experience in the field of advanced electrical machine design, analysis, and testing, and has had 26 patents issue in this field. The inventor would be happy to have a three way conversation with Applicant's representative and the Examiner in order to facilitate a better understanding of the invention and the reference. Applicant requests that, if the Examiner determines that such a conversation would facilitate the examination, the Examiner please contact the undersigned representative at the

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telephone number below to arrange for a convenient time to hold the conversation.

Respectfully submitted,

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